

REMARKS

Applicants would like to thank the Examiner for the indicated allowability of the subject matter recited in claims 3-6 and 14-17 and respectfully request reconsideration and allowance of all remaining claims in view of the above-amendments and the following remarks.

I. REQUEST FOR ENTRY OF AMENDMENTS

Applicants respectfully request that the above-amendments be entered to address the claim objections first presented in the current Office Action and to place the claims in condition for allowance or better form for appeal.

The majority of the above-amendments are made to address the objections to claims 1, 2-3 and 13-14 listed on page 2 of the Office Action. Claim 1 is amended to provide antecedent basis for "the initial assignment procedure" and claims 3-6 and 14-17 are amended to use the term "midvalue" instead of "midpoint" and to clarify what the midvalue represents. Also, these claims are amended to clarify that the "point" or "points" are of the first rectangle. Also, claims 3-5 and 14-16 are amended to remove the "matching".

In addition, claims 14 and 15 are amended to correct typographical errors. With respect to scope, independent claim 1 is amended to include the elements of dependent claim 2. In a similar fashion, independent claim 12 is amended to include the elements of dependent claim 13, which is canceled.

New claim 22 is added, which corresponds to a combination of independent claim 1 and dependent claim 7.

Applicants respectfully request that the proposed amendments to independent claims 1, 12 and 22 be entered to place all claims in condition for allowance or better form for appeal.

II. CLAIM REJECTIONS UNDER §102

Claims 1-2, 7, 11-13 and 18 were rejected under §102(b) as being anticipated by Wang et al., U.S. Patent No. 5,818,729.

With this Amendment, independent claims 1 and 12 are amended to include the limitations of dependent claims 2 and 13, respectively. Claims 1 and 12 now require the steps of "calculating a maximal cost of assignment of objects to points of the first rectangle," and "selecting an assignment of objects having a minimum value of the maximal cost."

Page 3 of the Office Action suggests that Wang et al. disclose these steps in column 1, lines 28-35. In contrast, the cited paragraph suggests that automatic placement is the problem of assigning locations to cells "so as to minimize some overall cost function." (Emphasis added). The end of the paragraph suggests that, "the total interconnect cost is minimized."

Minimizing the total or overall cost function is much different than selecting an assignment of objects having a minimum value of the maximal cost. Minimizing a maximal cost can be preformed much more quickly than minimizing the total or overall cost. Minimizing the total or overall cost most often requires a much more laborious and time consuming process.

Since Wang et al do not disclose selecting an assignment of objects having a minimum value of the maximal cost, Applicants respectfully request that the rejection of claims 1 and 12 and there respective dependent claims under section §102(b) be withdrawn.

III. CLAIM REJECTIONS UNDER §103(a)

Claims 8-10 and 19-21 were rejected under §103(a) as being unpatentable over Wang et al. in view of one or more of the background section of the present application, La Mura and Hill et al. However, even if these references were combined as suggested in the Office Action the resulting combinations would still fail to teach or suggest the inventions recited in amended claims 1 and 12. Therefore, Applicants respectfully request that the rejection of claims 8-10 and 19-21 (dependent on claims 1 and 12) under §103(a) be withdrawn.

IV. NEW CLAIM 22

As mentioned above, new claim 22 is a combination of independent claim 1 and dependent claim 7. Dependent claim 7 requires that the division of the first rectangle is performed "so that each point in the first rectangle is in at least two second rectangles."

The Office Action suggests that this step is shown in figures 7 and 8 of Wang. However, as described in column 9, lines 21-42 Wang simply disclose dividing each region 210 and 212 into subregions, such as dividing initial region 210 into regions 222 and 220 and dividing initial region 212 into regions 226 and 224.

In dependent claim 7 and new claim 22, each point of the first rectangle is in at least two second rectangles. This means that each point of the first rectangle is covered by at least two second rectangles. For example, the second rectangles could than cover the first rectangle at least two times. In Wang et al., the initial regions are divided into subregions such that the subregions have no common points (no intersections).

Thus, dependent claim 7 and new claim 22 are believed to be allowable over the cited art.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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